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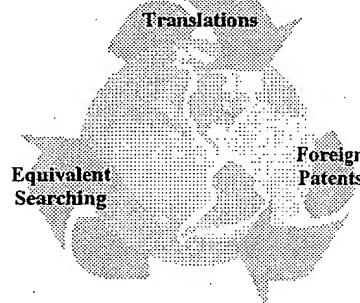
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PAPER CONTAINER WITH A SPOUT MEMBER
[Chushutsuko Buzai Wo Yusuru Kamiyoki]

Kazuki Yamada, et al.

UNITED STATES PATENT AND TRADEMARK OFFICE
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TITLE	(54): PAPER CONTAINER WITH A SPOUT MEMBER
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[Claim 1] A paper container with a spout member wherein an integrally molded spout member of a polyolefin resin that has a concave section and a collar section formed along the periphery of said concave section in a jutting manner and that has an adhesive member that is thermobonded to the rear surfaces of said concave section and collar section is installed into the opening formed in the paper container and secured by thermobonding the collar section of the aforesaid spout member to the outer peripheral layer of the paper container and wherein a sealing member for closing the aforesaid opening of the paper container is thermobonded to the inner peripheral layer of the paper container,

said paper container being characterized by the fact that the paper container is formed from a paper-container-use laminated sheet comprised of an inner surface layer whose innermost surface layer is an ethylene-vinyl alcohol copolymer resin layer, an intermediate layer comprised of a paper-composite substrate layer, and an outer surface layer comprised of a polyolefin resin, said container being formed in such a manner that the inner surface layer of the laminated sheet serves as the inner surface layer of the container,

by the fact that within the concave section of the spout member is provided an easy-to-tear race that is used to eliminate a portion

* Number in the margin indicates pagination in the foreign text.

of the concave section so as to form an opening at the said portion for pouring the content,

by the fact that the sealing member is comprised of an unstretched sheet of an ethylene-vinyl alcohol copolymer resin, and

by the fact that the adhesive member is comprised of a polyolefin resin layer and an ethylene-vinyl alcohol copolymer resin layer, said polyolefin resin layer being thermobonded to the aforesaid spout member and said ethylene-vinyl alcohol copolymer resin layer being thermobonded to the aforesaid sealing member.

[Claim 2] The paper container with a spout member stated in Claim 1, wherein the sealing member is formed from a laminated sheet comprised of an unstretched ethylene-vinyl alcohol copolymer resin layer, a gas-barrier layer, and an unstretched ethylene-vinyl alcohol copolymer resin layer, said sealing member being thermobonded to the inner peripheral layer of the paper container and to the rear surface of the concave section of the spout member in such a manner that one of the unstretched ethylene-vinyl alcohol copolymer resin layers of the sealing member makes contact with the inner peripheral layer of the paper container and with the adhesive member on the rear surface of the concave section of the spout member.

[Claim 3] The paper container with a spout member stated in Claim 1, wherein the adhesive member is formed from a laminated sheet comprised of a polyolefin resin layer, a gas-barrier layer, and an

unstretched ethylene-vinyl alcohol copolymer resin layer, the polyolefin resin layer of the aforesaid adhesive member being thermobonded to the rear surface of the concave section of the spout member and the unstretched ethylene-vinyl alcohol copolymer resin layer of the adhesive member being thermobonded to the sealing member.

[Detailed Description of the Device]

<Industrial Field of Application>

The present device pertains to improvements of paper containers having a spout member.

<Prior Art>

Heretofore, paper containers that have a spout member that is comprised of an integrally molded product of a polyolefin resin and that is attached and secured to an opening formed in the paper container, said spout member having a sealing member that is thermobonded to the inner peripheral layer of the aforesaid paper container and to the rear surface of the aforesaid spout member so as to close the aforesaid opening of the aforesaid paper container, are used for packaging beverages, etc.

These paper containers are formed from a laminated material whose top and bottom surface layers are both comprised of polyolefin resin and, consequently, have internal and external surface layers that are comprised of polyolefin resin layers. With respect to the spout member, the collar section of said spout member is adhered to the paper

container by utilizing the thermobonding properties of the polyolefin resin located at the external surface of the aforesaid paper container and of the collar section proper. Furthermore, the sealing member is also comprised of a polyolefin resin and thermobonded to the polyolefin resin layer, which is the inner peripheral layer, of the aforesaid paper container.

<Problems That The Device Intends to Solve>

The aforesaid prior-art containers that are made from a laminated material whose inner surface layer is comprised of a polyolefin resin layer have a problem in that its polyolefin resin layer undergoes thermal decomposition in the process of forming the polyolefin resin layer to obtain the aforesaid laminated material or in the process of shaping the container from said laminated material, thereby generating volatile components, such as aliphatic hydrocarbons, etc., and these volatile components migrate over to the content packed inside the paper container, thereby changing the flavor of the content or giving off an odor. Not only that, because the polyolefin resin layer of the aforesaid laminated material has a tendency to adsorb or permeate the flavor component of the content, there is also a disadvantage that the flavor of the packed content is readily changed and adversely affected.

When the sealing member is adhered to the polyolefin resin layer, which is the inner surface layer of the paper container, by utilizing its thermobonding property, as mentioned in the foregoing, problems

that are similar to those that occur in the shaping, etc., of the aforesaid container occur.

Accordingly, the present device intends to solve these problems of the prior art and to provide a paper container with a spout that does not adversely affect the flavor, etc., of the packed content.

<Means of Solving the Problems>

The paper container according to the first through third devices has a configuration in which a spout member that has a concave section and a collar section that is formed along the periphery of the concave section in a jutting manner is attached to the opening of the paper container, said collar section being thermobonded to the outer peripheral layer of the paper container; an adhesive member is thermobonded to the rear surface of the concave section of the aforesaid spout member; and a sealing member for closing the opening of the paper container is thermobonded to the inner peripheral layer of the paper container and to the adhesive member.

The aforesaid paper container is formed from a paper-container-use laminated sheet that is comprised of an inner surface layer that has an ethylene-vinyl alcohol copolymer resin layer as the innermost surface layer, of an intermediate layer comprised of a paper composite substrate layer, and of an outer surface layer comprised of a polyolefin resin, and it is formed in such a manner that the inner

surface layer of the aforesaid laminated sheet serves as the inner peripheral layer of the container.

With respect to the ethylene-vinyl alcohol copolymer resin that comprises the inner surface layer of the aforesaid paper container, if it has an ethylene content of less than 40 mol%, it is not suitable for practical use because the temperature required for heat-sealing increases. On the other hand, if it has an ethylene content exceeding 60 mol%, its tendency to adsorb the flavor component of the packed content increases. For these reasons, it is desirable to use an ethylene-vinyl alcohol copolymer resin whose ethylene content is from 40 to 60 mol%.

Since the resin layer comprised of the aforesaid ethylene-vinyl alcohol copolymer resin is less stable when its thickness is less than 5 μ and less impact resistant when its thickness exceeds 40 μ , it is desirable to set the thickness of the aforesaid resin layer within the range of 5 to 40 μ .

As the outer surface layer of the aforesaid container is used a polyolefin resin layer that can impart water resistance to the exterior of the paper container and, at the same time, that can bring about an excellent thermobonding property between it and the heat-sealing-use resin layer that is laminated over the rear surface layer of the aforesaid [illegible] paper-container-use blank [as transliterated].

This polyolefin resin layer can be comprised of, for example, a low-density polyethylene, medium-density polyethylene, high-density polyethylene, ethylene-vinyl acetate copolymer, and ethylene- α olefin copolymer as well as polypropylene, etc., that are formed into a layer of a thickness of about 3 to 150 μ .

The layer that is present between the aforesaid inner surface layer and outer surface layer of the paper container is not limited to a single-layer configuration comprised of a paper layer, and it can be a paper composite substrate layer prepared by laminating, for example, an aluminum foil, paper layer, olefin resin layer, polyester stretched film layer, etc. Especially when a resin stretched film layer is present between the paper layer and the ethylene-vinyl alcohol copolymer resin, which serves as the inner surface layer of the paper container, a paper container having excellent properties for a folding process can be obtained.

The paper container may be formed in various shapes, such as a gable-top shape, brick shape, etc., and the spout member can be fixed to a specific place of the paper container.

According to the first through third devices, the aforesaid /3
spout member is an integrally molded product of a polyolefin or adhesive polyolefin resin, and inside its concave section is provided an easy-to-tear race that is used to form a pouring-use opening by eliminating a portion of said concave section.

According to the first device, the aforesaid sealing member is comprised of an unstretched sheet of an ethylene-vinyl alcohol copolymer resin.

This unstretched sheet is formed from a resin that is similar to the one used for forming the inner surface layer of the paper container, and its thickness is preferably in the range of 5 to 100 μ .

The aforesaid adhesive member is formed from a laminated sheet comprised of a polyolefin resin layer and an unstretched ethylene-vinyl alcohol copolymer resin layer. This laminated sheet is preferably comprised of a polyolefin resin layer having a thickness of 3 to 50 μ and an unstretched ethylene-vinyl alcohol copolymer resin layer having a thickness of 5 to 50 μ , thus having a total thickness of 8 to 100 μ .

According to the second device, the sealing member is formed from a laminated sheet comprised of an unstretched ethylene-vinyl alcohol copolymer resin film layer, a gas-barrier layer, and an unstretched ethylene-vinyl alcohol copolymer resin layer, and it is thermobonded to the inner peripheral layer of the paper container and to the adhesive member.

As the aforesaid gas-barrier layer of the sealing component, vinylidene chloride resins, ethylene-vinyl alcohol copolymer resins, polyacrylonitrile resins, or aluminum foil can be suitably used. When an ethylene-vinyl alcohol copolymer resin is used as the gas-barrier

layer, a polyolefin resin should be used as an adhesive on both sides of it so as to prevent the deterioration of the gas-barrier property caused by the moisture absorption of the ethylene-vinyl alcohol copolymer resin.

The thickness of the aforesaid sealing component is preferably 10.5 to 100 μ as a whole, of which 5 to 50 μ is the unstretched ethylene-vinyl alcohol copolymer resin layer; 0.5 to 50 μ , the gas-barrier layer; and 5 to 50 μ , the unstretched ethylene-vinyl alcohol copolymer resin layer.

According to the third device, the adhesive member is formed from a laminated sheet comprised of a polyolefin resin layer, gas-barrier layer, and unstretched ethylene-vinyl alcohol copolymer resin layer, and it is thermobonded in such a way that the polyolefin resin layer of the aforesaid adhesive member makes contact with the rear surface of the concave section of the spout member, and its unstretched ethylene-vinyl alcohol copolymer resin layer makes contact with the sealing member.

With respect to the gas-barrier layer of the aforesaid adhesive member, what is described for the gas-barrier layer of the second device also applies to this layer.

The thickness of the aforesaid adhesive member is preferably 8.5 to 100 μ as a whole, of which:

polyolefin resin layer	3 - 50 μ
gas-barrier layer	0.5 - 50 μ
unstretched ethylene-vinyl alcohol copolymer resin	5 - 50 μ .

According to the first to third devices, the following sizes are preferable:

the opening of the paper container	10 - 40 mm in diameter
the collar section of the spout member	13 - 55 mm in diameter
the adhesive member	8 - 45 mm in diameter
the sealing member	13 - 55 mm in diameter.

The adhesive member may be thermobonded to the rear surface of the concave section of the spout member beforehand, may be inserted at the time when the spout member is injection-molded, or may be thermobonded to the sealing member from the surface-layer side of the paper container after the sealing member is thermobonded to the paper container.

<Working Examples>

The following explains working examples, referring to the figures.

Working Example 1

As shown in Fig. 3, the paper container in this example is the gable-top type, and, as shown in Fig. 1, there is a circular opening (2) formed in a roof-shaped sloped wall (1) of the top portion of the container. A spout member (3) is installed into the opening and secured to the exterior of the paper container.

The spout member (3) has a dish-shaped concave section (4) and an endless ring-shaped collar section (5) that juts out to the periphery of the concave section (4).

The concave section (4) has a diameter that is slightly smaller than that of the opening (2) of the paper container and is set slightly lower than the collar section (5).

The concave section (4) has an easy-to-tear race (8) for forming a spout (7) at the position that corresponds to a portion (6) of the concave section, as shown in Fig. 2, by eliminating this portion (6). In this case, the easy-to-tear race (8) is provided in an endless ring shape along the outline of the opening (2) of the paper container; therefore, the portion (6) to be eliminated from the concave section (4) is in a disc shape.

A gripper (9) protrudes from the portion (6) to be eliminated at a section that faces the easy-to-tear race (8), and the collar section (5) has a spout piece (10) formed in a protruding condition near the gripper (9). The tip of the gripper (9) is shaped into a ring, and, by pulling this, a tear is formed at the thin-walled section (11) that corresponds to the easy-to-tear race (8), thereby making it possible to eliminate the portion (6) surrounded by the easy-to-tear race (8) from the concave section (4) of the spout member (3).

The spout piece (10) is used for pouring the content through the spout (7) formed in the paper container as a result of eliminating the

aforesaid portion (6), and it also functions as a protector by preventing an external force from acting upon the gripper (9) unnecessarily during the transport, etc., of the paper container.

The spout member (3) is formed from a polyolefin resin (Sumikasen G7.1, a product of Sumitomo Chemical Co.) by integral molding. It is formed in such a way that its concave section (4) is positioned slightly lower than its collar section (5), and it is secured to the paper container by thermobonding the collar section (5) to the outer periphery of the paper container.

The opening (2) of the paper container is 24 mm in diameter, and the diameters of the collar section (4) and easy-to-tear race (8) of the spout member (3) are 33 mm and 18 mm, respectively.

The aforesaid paper container is formed by folding a paper-container-use laminated sheet according to conventional procedures, and the laminated sheet has the layer structure shown in Fig. 1.

More specifically, said laminated sheet is comprised of:
a laminated resin layer (12), which is obtained by forming, as the inner surface layer (12a), a three-layer-coextrusion laminated resin film comprised of an ethylene-vinyl alcohol copolymer resin (Eval G, a product of Kuraray Co., ethylene content: 47 mol%) layer (10 μ), an adhesive polyolefin resin (Novatec AP22GL, a product of Mitsubishi Chemical Industries Inc.) layer (10 μ), and an ethylene- α olefin copolymer resin (Ultozex 202GL, a product of Mitsui Petrochemical Co.)

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layer (40 μ) by the inflation method and subsequently by bonding a 12 μ -thick biaxially stretched polyethylene terephthalate film (Rumilar, a product of Toray Co.) to the ethylene- α olefin copolymer resin layer of the aforesaid laminated resin film, using an isocyanate-based adhesive,

of an intermediate layer (14) comprised of a paper composite substrate material that is obtained by bonding 9 μ -thick aluminum foil to the rear surface of acid-resistant paper whose grammage is 40 g/m² with the use of an adhesive layer comprised of a 15 μ -thick ionomer resin (High Milan 1652, a product of Mitsui Du Pont Chemical Co.) layer, and

of an external surface layer (13) obtained by extrusion-coating a 20 μ -thick low-density polyethylene resin (Milason 165P) layer over the front surface of the aforesaid acid-resistant paper.

The aforesaid laminated material is formed by bonding the Al foil of the aforesaid paper composite substrate to the biaxially stretched polyethylene terephthalate film of the aforesaid laminated resin layer (12).

To the inner surface layer (12a) of the paper container, a sealing member (15) that sealed the opening (12) of the paper container is thermobonded.

The sealing member (15) is obtained by blanking a 30 μ -thick unstretched sheet of an ethylene-vinyl alcohol copolymer resin (Eval G,

a product of Kuraray) into a disc that is 35 mm in diameter, and it is thermobonded to the inner surface layer (12a) of the paper container and to the adhesive member on the rear side of the concave section (4) of the spout member (3).

To the rear surface of the concave section of the aforesaid spout member (3), an adhesive member (16) is adhered by insertion during the forming of the spout member.

The adhesive member (16) is obtained by forming a three-layer-coextrusion laminated resin film comprised of an ethylene-vinyl alcohol copolymer resin (Eval G, a product of Kuraray Co., ethylene content: 47 mol%) layer (8 μ) (16a), an adhesive polyolefin resin (Novatec AP22GL, a product of Mitsubishi Chemical Industries Inc.) layer (7 μ), and an ethylene- α olefin copolymer resin (Ultozex 202GL, a product of Mitsui Petrochemical Co.) layer (15 μ) (16b) by the inflation method and subsequently by forming it into a disc that is 27 mm in diameter.

The filling of the content into the paper container thus configured is carried out from the roof-shaped top portion that has not been sealed yet, and, after a given quantity is packed, the container is sealed, thus assuming the sealed condition shown in Fig. 3. By then, the spout member (3), adhesive member (16), and the sealing member (15) have already been bonded to the paper container.

The paper container is unsealed by pulling the gripper (9) with a finger hooked to it and by eliminating the portion (6) of the concave section (4) along the easy-to-tear race (8). In this process, the adhesive member (16) and the sealing member (15) are also torn along the easy-to-tear race (8), and the torn sections, still adhering to the portion (6) of the concave section (4), are discarded together with the portion (6).

Working Example 2

The spout member, adhesive member, and paper container are prepared in the same manner as in Working Example 1, but the sealing member is comprised of a laminated sheet prepared by bonding a 10 μ -thick unstretched ethylene-vinyl alcohol copolymer resin (Eval G, a product of Kuraray Co.) layer, a 15 μ -thick aluminum foil, and a 10 μ -thick unstretched ethylene-vinyl alcohol copolymer resin (Eval G, a product of Kuraray Co.) layer by means of an adhesive.

Working Example 3

The spout member, adhesive member, and paper container are prepared in the same manner as in Working Example 1, but the sealing member is prepared by forming, with a T die, a three-layer-coextrusion laminated film comprised of a 10 μ -thick unstretched ethylene-vinyl alcohol copolymer resin (Eval E, a product of Kuraray Co.) layer, a 15 μ -thick adhesive polyolefin resin (Novatec AP2202, a product of Mitsubishi Chemical Industries Inc.) layer, and a 10 μ -thick

unstretched ethylene-vinyl alcohol copolymer resin (Eval E, a product of Kuraray Co.) layer.

In this case, the ethylene-vinyl alcohol copolymer resin layer that is at the thermobonded side is used as a gas-barrier layer.

Working Example 4

The spout member, paper container, and sealing member are prepared in the same manner as in Working Example 1, but the adhesive member is a laminated sheet prepared by bonding a 20 μ -thick polyolefin resin (Milason 16P, a product of Mitsui Petrochemical Co.) layer, a 15 μ -thick aluminum foil, and a 10 μ -thick unstretched ethylene-vinyl alcohol copolymer resin (Eval G, a product of Kuraray) layer by means of an adhesive.

<Operation and Effects of the Device>

The paper container with a sprout member according to the present device has an inner surface layer comprised of an ethylene-vinyl alcohol copolymer resin layer, as described in the foregoing; therefore, it exhibits an excellent flavor-retention effect on the content, such as orange juice, etc., owing to the flavor-retaining capability of said resin layer.

Although the spout member is formed from a polyolefin resin, because its collar section to be thermobonded with the paper container is positioned outside the paper container, the odor that is generated by the thermobonding does not enter the paper container.

As a consequence, the paper container with a spout member pertaining to the present device exhibits a superb flavor-retention property, and, compared to prior-art paper containers with a spout member, it has a superior flavor-retention property, with no flavor change or bad odor.

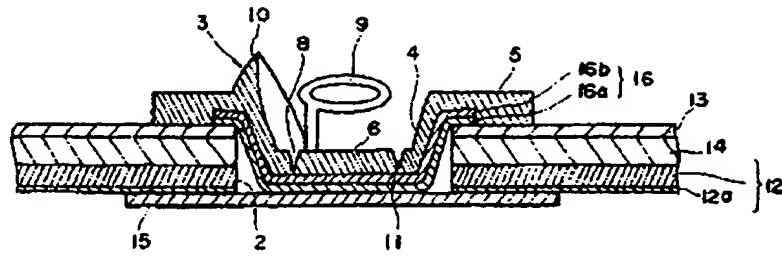
Furthermore, since the sealing member that closes the opening of the paper container is comprised of an unstretched sheet of an vinyl-vinyl alcohol copolymer resin or a laminated sheet whose surface that makes contact with the content is comprised of an ethylene-vinyl alcohol copolymer resin, this fact conjointly with the fact that the inner surface layer of the paper container is comprised of an ethylene-vinyl alcohol copolymer resin makes it possible to prevent, with more certainty, a flavor change and bad odor from occurring. /5

[Brief Explanation of the Drawings]

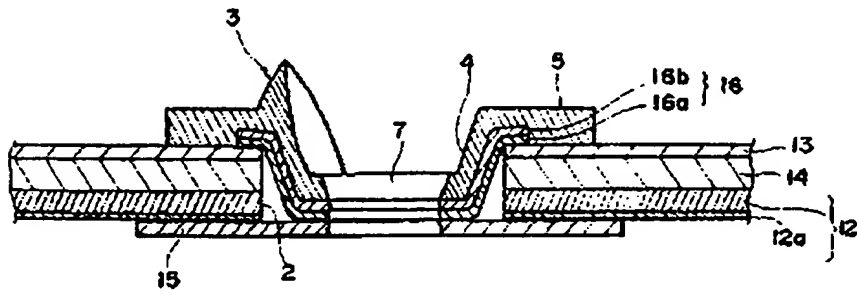
The figures illustrate an embodiment of the paper container with a spout member pertaining to the present invention. Fig. 1 is a cross-sectional drawing at Line I-i in Fig. 3; Fig. 2 is a cross-sectional drawing of the section that is the same as Fig. 1 that is in the condition after the container is unsealed; and Fig. 3 is a perspective view of the paper container in the sealed state.

3: spout member, 4: concave section; 5: collar section; 7: spout; 12: inner surface layer; 13: outer surface layer; 14: intermediate layer; 15: sealing member; 16: adhesive member.

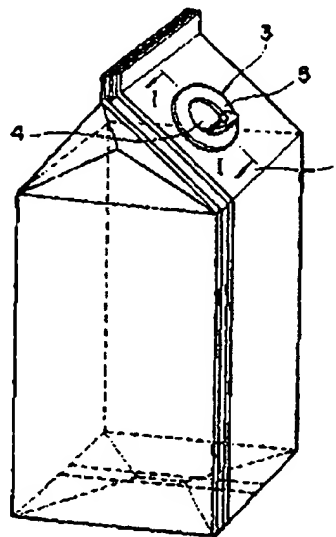
[FIG. 1]



[FIG. 2]



[FIG. 3]



- 3 : 罐口部材
- 4 : 筒状部
- 5 : 筒部
- 7 : 注入口
- 12 : 内装部層
- 13 : 外装部層
- 14 : 中間層
- 15 : 封止部材
- 16 : 蓋部材

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(54) 【考案の名称】 注出口部材を有する紙容器

1

【実用新案登録請求の範囲】

【請求項1】凹状部と該凹状部の周縁に張り出し形成されている鋸部とを有し、該凹状部及び鋸部の裏面に接着部材が熱接着されている。ポリオレフィン系樹脂による一体成形からなる注出口部材が、紙容器に穿設されている開口部に装着され、かつ、前記注出口部材における鋸部が前記紙容器の外周面層に熱接着されることによって、固定されており、しかも、前記紙容器における前記開口部を閉塞する封止部材が、前記紙容器の内周面層に熱接着されている紙容器において、前記紙容器が、エチレン-ビニルアルコール系共重合体樹脂層を最内表面層とする内表面層と、紙複合基材層からなる中間層と、ポリオレフィン系樹脂による外表面層とを具備する紙容器用積層シートによって、前記積層シートにおける内表面層が容器内表面層となるようにして形成されており、ま

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た、前記注出口部材における凹状部内には、該凹状部の1部分を欠落させることによって該部分に注出用の開口部を形成させるための易断断痕が付けられており、さらに、前記封止部材が、エチレン-ビニルアルコール系共重合体樹脂による未延伸シートで構成されており、さらに、前記接着部材がポリオレフィン系樹脂層とエチレン-ビニルアルコール系共重合体樹脂層とで構成され、該ポリオレフィン系樹脂層が前記注出口部材に、該エチレン-ビニルアルコール系共重合体樹脂層が前記封止部材に夫々熱接着されていることを特徴とする注出口部材を有する紙容器。

【請求項2】封止部材が、未延伸エチレン-ビニルアルコール系共重合体樹脂層/ガスバリア性層/未延伸エチレン-ビニルアルコール系共重合体樹脂層からなる積層シートで構成されており、該封止部材における前記一方

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の未延伸エチレン-ビニルアルコール系共重合体樹脂層が紙容器の内周面層と注出口部材の凹状部裏面の接着部材とに接するようにして、該封止部材が、紙容器の内周面層と注出口部材の凹状部裏面とに熱接着されている請求項1記載の注出口部材を有する紙容器。

【請求項3】接着部材が、ポリオレフィン系樹脂層/ガスバリア性層/未延伸エチレン-ビニルアルコール系共重合体樹脂層からなる積層シートで構成されており、前記接着部材のポリオレフィン系樹脂層が注出口部材の凹状部裏面に、かつ、該接着部材の未延伸エチレン-ビニルアルコール系共重合体樹脂層が封止部材に夫々熱接着されている請求項1記載の注出口部材を有する紙容器。

【考察の詳細な説明】

<産業上の利用分野>

本考察は、注出口部材を有する紙容器の改良に関するものである。

<従来の技術>

従来より、ポリオレフィン系樹脂による一体成形体からなる注出口部材が、紙容器に穿設されている開口部に装着、固定され、しかも、前記紙容器における前記開口部を閉塞する封止部材が、前記紙容器の内周面層と前記注出口部材の裏面とに熱接着されている注出口部材を有する紙容器が、飲料などの充填に用いられている。

この紙容器は、上下両表面層がポリオレフィン系樹脂で形成されている積層材によって、紙容器の内、外表面層がポリオレフィン系樹脂層で構成されている容器に成形されており、また、注出口部材は、該注出口部材における鋸部が、前記紙容器の外表面のポリオレフィン系樹脂と鋸部自体が有する熱接着性を利用することによって紙容器に接着されている。さらに、封止部材も、ポリオレフィン系樹脂で構成され、前記紙容器の内周面層のポリオレフィン系樹脂層に熱接着されている。

<考察が解決しようとする課題>

ところで、前記従来の内表面層がポリオレフィン系樹脂層で構成されている積層材による紙容器は、前記積層材を得る際のポリオレフィン系樹脂層の形成時や該積層材による容器の成形時に、ポリオレフィン系樹脂層が熱分解を受けて脂肪族炭化水素等の揮発成分を生成することとなり、この揮発成分が容器内に収容されている内装物内に移行する結果、内装物に変味や異臭が発生するという弊害を有するばかりでなく、前記積層材におけるポリオレフィン系樹脂層は、内装物中の芳香成分を吸着しやすかったりあるいは透過しやすかったりするため、内装物の風味が変化して損なわれ易いという欠点をも有する。また、前記のごとく封止部材を紙容器の内表面層たるポリオレフィン系樹脂層に熱接着性により接着すると、前記紙容器の成形等における同様な弊害を生じる。

従って、本考察はそのような従来の欠点を解消することを目的とし、内装物の風味などに悪影響を及ぼすことのない、注出口部材を備えた紙容器を提供しようとするも

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のである。

<課題を解決するための手段>

本第1ないし第3の考案の紙容器は、凹状部と該凹状部の周縁に張り出し形成されている鋸部とを有する注出口部材が、紙容器の開口部に装着され、その鋸部が紙容器の外周面層に熱接着されており、しかも前記注出口部材の凹状部裏面に接着部材が熱接着され、さらに紙容器の開口部を閉塞する封止部材が紙容器内周面層と接着部材とに熱接着されている構成からなる。

10 前記紙容器は、エチレン-ビニルアルコール系共重合体樹脂層を最内表面層とする内表面層と、紙複合基材層からなる中間層と、ポリオレフィン系樹脂による外表面層とを具備する紙容器用積層シートによって、前記積層シートにおける内表面層が容器内周面層となるようにして成形されている。

前記紙容器の内表面層のエチレン-ビニルアルコール系共重合体樹脂は、エチレン含有量が40モル%未満の場合には、ヒートシールに要する温度が高くなるため実用的でなく、またエチレン含有量が60モル%を超える場合には、内装物における芳香成分の吸着傾向が高くなることから、エチレン含有量40~60モル%のエチレン-ビニルアルコール系共重合体樹脂を利用するのが好ましい。

また、前記エチレン-ビニルアルコール系共重合体樹脂による樹脂層は、この層の厚さが5μ未満になると、該樹脂層の安定性が低くなり、また、40μを超えると耐衝撃性が低下することから、前記樹脂層は、厚さ5~40μの範囲内に存することが好ましい。

前記紙容器の外表面層は、紙容器に外部から耐水性能を付加するものであると同時に、前述の各紙容器用ブランクの裏面層に積層されているヒートシール用樹脂層との間に、優れた熱溶解性能をもたらすポリオレフィン系樹脂層が利用される。

このポリオレフィン系樹脂層は、例えば、低密度ポリエチレン、中密度ポリエチレン、高密度ポリエチレン、エチレン-酢酸ビニル共重合体、エチレン-αオレフィン共重合体、さらには、ポリプロピレン等によって、厚さ3~150μ程度に形成されているもので構成することができる。

紙容器における前記内表面層と外表面層との間に存在する層は紙層からなる単層に限られるものではなく、例えばアルミニウム箔、紙層、オレフィン系樹脂層、ポリエステル延伸フィルム層等を積層してなる紙複合基材層とすることができ、特に、紙層と紙容器内表面層たるエチレン-ビニルアルコール系共重合体樹脂との間に樹脂延伸フィルム層を介在させることにより、折り曲げ加工に優れた特性を有する紙容器となしうるものである。

紙容器の形態としては、ゲーベルトップ型、ブリック型等各種の者となることができ、注出口部材は紙容器の所定箇所に

40 固着し得る。

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また、本第1ないし第3の考案において、前記注出口部材は、ポリオレフィン系または接着性ポリオレフィン系樹脂による一体成形体であり、その凹状部内には、該凹状部の1部分を欠落させることによって、該部分に注出用の開口部を形成させるための易破断条溝が付されている。

本第1の考案においては、前記封止部材は、エチレンービニルアルコール系共重合体樹脂による未延伸シートで構成されている。

この未延伸シートは、前記紙容器の内表面層を形成するものと同様な樹脂を用い、また厚さは5～100μとするのが好ましい。

また、前記接着部材は、ポリオレフィン系樹脂層と未延伸エチレンービニルアルコール系共重合体樹脂層の積層シートで構成されている。この積層シートは、ポリオレフィン系樹脂層が3～50μ、未延伸エチレンービニルアルコール系共重合体樹脂層が5～50μで、全体の厚さとして8～100μとするのが好ましい。

本第2の考案において、封止部材は、未延伸エチレンービニルアルコール系共重合体樹脂フィルム層とガスバリア性層と未延伸エチレンービニルアルコール系共重合体樹脂層との積層シートで構成され、紙容器の内周面層と接着部材とに熱接着されている。

前記封止部材のガスバリア性層としては、塩化ビニリデン樹脂、エチレンービニルアルコール系共重合体樹脂、ポリアクリロニトリル樹脂、またはアルミニウム箔が好適に使用し得るが、エチレンービニルアルコール系共重合体樹脂をガスバリア性層とする際は、接着剤としてポリオレフィン系樹脂を両面に用いてエチレンービニルアルコール系共重合体樹脂の吸湿によるガスバリア性の低下を防ぐ必要がある。

なお、前記封止部材の厚さは、未延伸エチレンービニルアルコール系共重合体樹脂層5～50μ、ガスバリア性層0.5～50μ、未延伸エチレンービニルアルコール系共重合体樹脂層5～50μで、全体として10.5～100μとするのが好ましい。

本第3の考案において、接着部材は、ポリオレフィン系樹脂層と、ガスバリア性層と、未延伸エチレンービニルアルコール系共重合体樹脂層との積層シートで構成されており、前記接着部材のポリオレフィン系樹脂層が注出口部材の凹状部裏面に接し、さらに、未延伸エチレンービニルアルコール系共重合体樹脂層が封止部材と接するようにして熱接着されている。

前記接着部材のガスバリア性層としては本第2の考案のガスバリア性層と同様である。

なお、接着部材の厚さは、

ポリオレフィン系樹脂層	3～50μ
ガスバリア性層	0.5～50μ
未延伸エチレンービニルアルコール系共重合体樹脂	5～50μ

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で、全体として、8.5～100μであるのが望ましい。

また、本第1～第3の考案においては、

紙容器の開口部	10～40mmφ
注出口部材の頸部	13～55mmφ
接着部材	8～45mmφ
封止部材	13～55mmφ

の大きさであるのが望ましい。

接着部材は、注出口部材の凹状部裏面に予め熱接着するか、注出口部材を射出成形する際にインサートするか、紙容器に封止部材を熱接着した後に紙容器の表面層側より封止部材に熱接着してもよい。

<実施例>

実施例について図面を参照して説明する。

実施例1

第3図で示されるように、紙容器はこの場合ゲーベルトップ型に構成されており、その頂部の屋根形の斜壁部分1には第1図で示されるように円形の開口部2が穿設され、そこには紙容器外側が注出口部材3が装着され、固定されている。

注出口部材3は、皿様の凹状部4と、該凹状部4の周縁に張り出し系されている無端環状の頸部5とを有している。

凹状部4は紙容器の開口部2の径よりもやや小さい径に設定され、また頸部5からやや下方へ陥没している。

凹状部4には、該凹状部の1部分6を欠落させることによって、該部分6に対応する箇所に、第2図のごとく注出口7を形成させるための易破断条溝8が付されている。この場合、易破断条溝8は無端環状に紙容器の開口部2の輪郭に沿って設けられており、従って、前記凹状部4の欠落する1部分6は円板となる。

該欠落する1部分6の前記易破断条溝8に臨んだ1箇所には、把持片9が突設され、また把持片9の近傍の頸部5には注口片10が突設されている。把持片9は先端がリングとなっており、これを引っ張ることにより易破断条溝8に対応する薄肉部11に亀裂を生じさせ、易破断条溝8で囲まれた凹状部4の1部分6を注出口部材3から除去することができる。

注口片10は前記1部分6を除去する結果、紙容器に生じる注出口7から内装物を注ぎ出す際に利用されるものであるが、紙容器の輸送中などにおいて前記把持片9に外力がみだりに作用しないようにするためのプロテクタとしての機能も果たすものである。

注出口部材3は、ポリオレフィン系樹脂〔スミカセンG 7.1:住友化学工業(株)〕を用いた一体成形により構成され、その凹状部4が頸部5よりもやや陥没するよう成形され、頸部5が紙容器の外周面に熱接着されることにより紙容器に固定されている。

なお、紙容器の開口部2の径は24mmφであり、注出口部材3、頸部4及び易破断条溝8の各径は夫々33mmφ、18mmφである。

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前記紙容器は紙容器用積層シートを通常の手順で折り曲げて組み立てられており、該積層シートは第1図で示されるような層構成となっている。

すなわち、該積層シートは、内表面層12aたるエチレンービニルアルコール系共重合体樹脂〔エチレン含有量47%モル、エパールG:（株）クラレ〕層（10μ）/接着性ポリオレフィン系樹脂〔ノバテックAP220L:三菱化成（株）〕層（10μ）/エチレンーα・オレフィン共重合体樹脂〔ウルトゼックス2020L:三井石油化学工業（株）〕層（40μ）の3層共押し出し積層樹脂フィルム

をインフレーション法で製膜した後、更に、前記積層樹脂フィルムのエチレンーα・オレフィン共重合体樹脂層面に、厚さ12μの二軸延伸ポリエチレンテレフタレートフィルム〔京レ（株）:ルミラー〕をイソシアネート系接着剤で接着することによって得られた積層樹脂層12と、坪量340g/㎡の耐酸紙の裏面に厚さ15μのアイソマー樹脂〔三井デュボンケミカル（株）:ハイミラン1552〕層からなる接着剤層を利用して厚さ9μのA1箔を接着することによって得られた、中間層14たる紙複合基材と、前記耐酸紙の裏面に厚さ20μの低密度ポリエチレン樹脂〔ミラソン16SP〕層を押し出しコーティングした外表面層13とからなるものである。

なお、前記積層樹脂は、前記積層樹脂層12における二軸延伸ポリエチレンテレフタレートフィルム面に対して、前記紙複合基材のA1箔面をイソシアネート系接着剤で積層したものである。

前記紙容器の内表面層12aには紙容器の開口部2を閉塞する封止部材15が熱接着されている。

該封止部材15は、厚さ30μのエチレンービニルアルコール系共重合体樹脂〔エパールG:（株）クラレ〕による未延伸シートを、直径35mmφの円板として打ち抜き成形したものであり、紙容器の内表面層12aと、注出口部材3の凹状部4の裏面の接着部材とに熱接着されているものである。

前記注出口部材3の凹状部裏面には、該注出口部材の成形時におけるインサートによって接着部材16が接着されている。

該接着部材16は、エチレンービニルアルコール系共重合体樹脂〔エチレン含有量47%モル、エパールG:（株）クラレ〕層（8μ）15a、接着性ポリオレフィン系樹脂〔ノバテックAP220L:三菱化成（株）〕層（7μ）/エチレンーα・オレフィン共重合体樹脂〔ウルトゼックス2020L:三井石油化学工業（株）〕層（15μ）15bの3層共押し出し積層樹脂フィルムをインフレーション法で製膜した後、直径27mmφの円板としたものである。

なお、以上のような紙容器に内填物を充填するには、未封状態の屋根型頂部から行い、定量充填後に第3図の如き封滅状態とする。その際、注出口部材3、接着部材16及び封止部材15はすでに紙容器に接着されている。

紙容器の開封は把持片9を指に引っかけて引っ張り、易

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破断条溝8に沿って凹状部4の1部分6を欠落させることにより行なう。その際、接着部材16と封止部材15も前記易破断条溝8に略沿って破断し、破断した部分は前記凹状部4の1部分6に付着したまま該1部分6とともに廃棄される。

実施例2

注出口部材、接着部材及び紙容器は、実施例1におけると同様に構成したが、封止部材は、厚さ10μの未延伸エチレンービニルアルコール系共重合体樹脂〔エパールG:（株）クラレ〕層と、厚さ15μのアルミニウム箔と、厚さ10μの未延伸エチレンービニルアルコール系共重合体樹脂〔エパールG:（株）クラレ〕層とを接着剤を介して接着し積層シートとして構成した。

実施例3

注出口部材、接着部材及び紙容器は、実施例1におけると同様に構成したが、封止部材は、厚さ10μの未延伸エチレンービニルアルコール系共重合体樹脂〔エパールE:（株）クラレ〕層と、厚さ15μの接着性ポリオレフィン系樹脂〔ノバテックAP2202:三菱化成（株）〕層と、厚さ10μの未延伸エチレンービニルアルコール系共重合体樹脂〔エパールE:（株）クラレ〕層との3層共押し出し積層フィルムをTダイで製膜して作製した。

そして、熱接着側のエチレンービニルアルコール系共重合体樹脂層をガスバリア性層として用いた。

実施例4

注出口部材、紙容器及び封止部材は、実施例1におけると同様である。しかし、接着部材は、厚さ20μのポリオレフィン系樹脂〔ミラソン16P:三井石油化学工業（株）〕層と、厚さ15μのアルミニウム箔と、厚さ10μの未延伸エチレンービニルアルコール系共重合体樹脂〔エパールG:（株）クラレ〕層とを接着剤を介して接着し、積層シートとして構成した。

<考察の作用、効果>

本考察に係る注出口部材を有する紙容器は、以上のように、紙容器の内表面層がエチレンービニルアルコール系共重合体樹脂層で構成されているので、該樹脂層の有する保香性能によってオレンジジュース等の内填物に対して優れた保香特性を奏するものである。

また、注出口部材は、ポリオレフィン系樹脂で形成されているが、その紙容器に熱接着すべき部材は紙容器の外側に存在するから、その熱接着に際し発生する異臭は紙容器内に侵入しない。

従って、本考察に係る注出口部材を具備する紙容器は、極めて優れた保香性を発揮するものであり、従来の注出口部材を具備する紙容器に比べ、ジュース等の内填物に変味や異臭を発生することがなく、保香性に優れた作用を奏するものである。

更に、紙容器の開口部を閉塞する封止部材は、エチレンービニルアルコール系共重合体樹脂による未延伸シート、または内填物と接する面がエチレンービニルアルコ

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ール系共重合体樹脂である積層シートで構成されているので、紙容器の内表面層がエチレン-ビニルアルコール系共重合体樹脂で構成されていることと相まって、内装物に変味や異臭が発生するのをより確実に防止することができるものである。

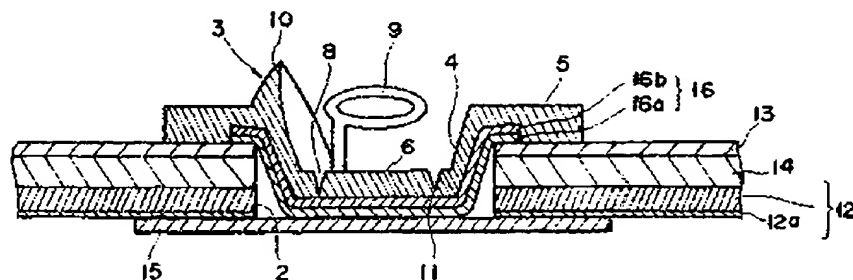
【図面の簡単な説明】

図は、本発明に係る注出口部材を有する紙容器の実施例*

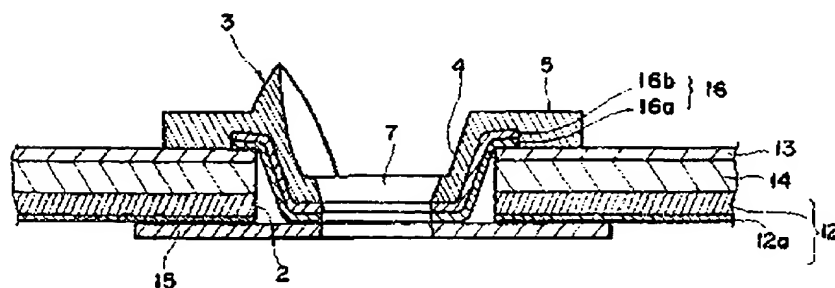
*を示し、第1図は第3図のI-I線断面図、第2図は開封後における第1図と同様な断面図、第3図は密封状態における紙容器の斜視図である。

3:注出口部材、4:凹状部、5:鋸部、7:注出口、12:内表面層、13:外表面層、14:中間層、15:封止部材、16:接着部材。

【第1図】



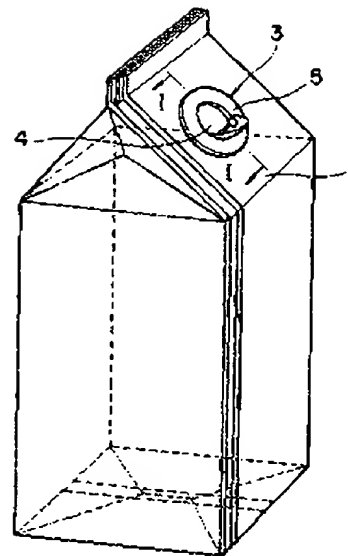
【第2図】



(6)

実公平6-46825

【第3図】



- 3 : 注出口部材
- 4 : 側板部
- 5 : 底部
- 7 : 注出口
- 12 : 内被覆層
- 13 : 外被覆層
- 14 : 中間層
- 15 : 封止部材
- 16 : 接着部材

Utility-model/ examined publication document
1994046825

[Claims] [Detail Description] [Drawing Description]

PATOLIS will not assume the accuracy or the reliability of the translation provided automatically by computer and will not be responsible for any errors, omissions or ambiguities in the translations and any damages caused by the use of the translation.

[CLAIM FOR THE UTILITY MODEL REGISTRATION]
[Claim 1]

Inlet member of framework; wherein; The collar department which it stretches circumferentially, and is formed of concave department and said concave department is comprised, the inlet member of framework which a one-piece shell by the polyolefin resin that adhesive joint materials can leave thermobonding becomes is loaded by opening formed by paper container and collar department in above inlet member of framework is fixed to rear of said concave department and collar department by means of being done thermobonding by outer circumferential surface bed of above paper container, in the paper container that the seal which, besides, blockade above opening in above paper container can leave thermobonding in internal perimeter surface bed of above paper container; Paper container; comprising: The inner surface bed that __ {__ above paper container assumes ethylene - vinyl alcohol system interpolymer resin layer the most inner surface layer, Center comprising of the paper composition backing material layer, Fortunetelling break article bezel to make said division form opening for teeming is referred by making it is done for the purpose of it being, and inner surface bed in above laminating seat is formed by means of laminating seat for paper container comprising the class of external surface by polyolefin resin by container inner surface bed and one part of minute of said concave department lack in concave department in above inlet member of framework , to a countersunk head, an above seal is configured in not yet drawing seat by ethylene - vinyl alcohol system interpolymer resin , to a countersunk head, above adhesive joint materials are configured in polyolefin resin bed and ethylene - vinyl alcohol system interpolymer resin layer, is done thermobonding said ethylene - vinyl alcohol system interpolymer resin layer in above inlet member of framework said polyolefin resin bed each by an above seal. __}__

[Claim 2]

Paper container; comprising: A seal is configured in laminating seat comprising of not yet drawing ethylene - vinyl alcohol system interpolymer resin layer / gas barrier property bed / not yet drawing ethylene - vinyl alcohol system interpolymer resin layer, not yet drawing ethylene - vinyl alcohol system interpolymer resin layer of above on the other hand in said seal contacts with adhesive joint materials of concave department rear of internal perimeter surface bed and inlet member of framework of paper container, and said seal is inlet member of framework as claimed in thermobonding done claim 1 in concave department rear of internal perimeter surface bed and inlet member of framework of paper container.

[Claim 3]

Paper container; comprising: Adhesive joint materials are configured in laminating seat comprising of class of class of polyolefin resin / gas barrier property / not yet drawing ethylene - vinyl alcohol system interpolymer resin layer, not yet drawing ethylene - vinyl alcohol system interpolymer resin layer of said adhesive joint materials that polyolefin resin bed of above adhesive joint materials beats concave department rear of inlet member of framework is inlet member of framework as claimed in thermobonding done claim 1 to a seal each.

[DETAILED DESCRIPTION OF THE INVENTION]

The <field of industrial application> present invention relates to betterment of paper container having inlet member of framework. Is fixed mounting to the opening that inlet member of framework comprising of one-piece body by polyolefin resin is formed by paper container <prior art:> conventionally , a seal blockading the opening in the, besides, paper container, paper container having thermobonding done inlet member of framework is used in rear of internal perimeter surface bed of the paper container and the inlet member of framework by charge of drink. Both top and bottom surface layer is polyolefin resin, and, as for this paper container, the class of external surface is molded as

container configured in polyolefin resin bed among paper container by formed laminated wood and inlet member of framework is bonded to paper container by means of collar department in the inlet member of framework using the thermobonding characteristics which polyolefin resin and collar department in itself comprise of external surface of the paper container. To a countersunk head, A seal consists of polyolefin resin, too, is done thermobonding by polyolefin resin bed of the internal perimeter surface layer of the paper container. As a result that when polyolefin resin bed receives heat decomposition in molding of container by formation time of polyolefin resin bed when paper container by laminated wood configured in polyolefin resin bed gets the laminated wood and the laminated wood, and the conventional inner surface bed generates volatile component of aliphatic hydrocarbon in the assignment> place that a <invention is going to solve, this volatile component shifts in *nai** article accommodated in container, and polyolefin resin bed in the laminated wood is easy to adsorb arrival at incense component in *nai** article or strange taste and nasty smell comprise an evil to occur in *nai** article, and it transmits, unpleasant *su*, flavor of *nai** article comprises defect that it is varied from to, and is easy to be failed it is enough, and to do. In addition, When a seal is bonded to the polyolefin resin layer as the inner surface layer of paper container by thermobonding characteristics like the above, the evil that is similar is produced when it can be put in molding of the paper container. Therefore, The present invention is aimed at breaking off such a conventional weak point, paper container comprising inlet member of framework without giving bad influence to flavor of *nai** thing is going to be provided. As for the first <means for solving problem> book - the paper container of the third invention, inlet member of framework comprising the collar department which it projects circumferentially, and is formed of concave department and the concave department is loaded by opening of paper container, the collar department can leave thermobonding in outer circumferential surface bed of paper container, it is from the assembling that the seal which adhesive joint materials leave thermobonding in concave department rear of the, besides, inlet member of framework, and blockade opening of paper container to sludge, a countersunk head can leave thermobonding to paper container internal perimeter surface bed and adhesive joint materials. It is done for the purpose of it being, and, the paper container, inner surface bed in the laminating seat is molded as container internal perimeter surface bed by means of laminating seat for paper container comprising external surface bed by center comprising of most inner surface bed and inner surface bed doing and paper composition backing material bed and polyolefin resin in interpolymer resin layer pro-ethylene - vinyl alcohol. When it is not practical so that temperature to need becomes high and ethylene content 60 go over mol % to heat sealing when ethylene content 40 is less than mol %, what use ethylene - vinyl alcohol system interpolymer resin of 40-60 ethylene content mol % because adsorption gravitation of arrival at incense component in *nai** article becomes high is desirable for ethylene - vinyl alcohol system interpolymer resin of the class of inner surface of the paper container. In addition, Preferred what the resin layer keeps in area of 5-40 caliper μ because chip resistance falls soundness of the resin layer goes low if caliper 5 of this bed becomes under μ and when resin layer by interpolymer resin pro-ethylene - vinyl alcohol goes over 40 μ . At the same time as the external surface layer of the paper container adds durability ability to paper container from external, polyolefin resin bed bringing heat deposition performance superior between resin layer for laminated heat sealing is used. For example, density polyethylene, high density polyethylene, ethylene - vinyl acetate interpolymer, ethylene - alpha olefin copolymer, a countersunk head can compose this polyolefin resin layer with a thing formed by means of polypropylene by 3-150 caliper μ degree out of low density polyethylene. Existing bed can do with the paper composition backing material bed that, by way of example only, aluminum foil, paper, olefinic system resin layer, poly beauty treatment salon L stretch film bed are laminated, and it is rather than a thing limited to lamina comprising of paper between the class of inner surface and class in paper container of external surface, it is with paper container having superior character, and it can be done in folding by making resin stretch film bed intervene between ethylene - vinyl alcohol system interpolymer resin as paper and paper container inner surface bed particularly. For a form of paper container. *geberutoppu* type, *burikku* type can be assumed various people, inlet member of framework can be adhered in an appointed point of paper container. In addition, The inlet member of framework is one-piece body by polyolefin or adherent polyolefin resin,

and, in this the first - the third invention, fortunetelling break article bezel to make the division form opening for teeming by means of making one part of minute of the concave department lack in the concave department is referred. In this the first invention, the seal is configured in not yet drawing seat by ethylene - vinyl alcohol system interpolymer resin. It is desirable that similar resin is used and caliper 5-100 assume that this not yet drawing sheet forms the inner surface layer of the paper container with mu. In addition, The adhesive joint materials are configured in laminating seat of the polyolefin resin layer and not yet drawing ethylene - vinyl alcohol system interpolymer resin layer. This laminating sheet, preferred what mu, not yet drawing ethylene - vinyl alcohol system interpolymer resin layer 5-50 do with 8-100 mu as caliper of the whole in mu polyolefin resin layer 3-50. In this the second invention, a seal is configured in laminating seat with not yet drawing ethylene - vinyl alcohol system interpolymer resin film layer and gas barrier property bed and not yet drawing ethylene - vinyl alcohol system interpolymer resin layer, is done thermobonding with internal perimeter surface bed of paper container by adhesive joint materials. It is preferable, and, for the class of gas barrier property of the seal, vinylidene chloride resin, ethylene - vinyl alcohol system interpolymer resin, poly lye re-lot nitrile resin or aluminum foil can employ, but, when ethylene - vinyl alcohol system interpolymer resin is done with gas barrier property bed, it is necessary polyolefin resin is used as adhesive on both sides, and to prevent fall of gas barrier by moisture absorption of ethylene - vinyl alcohol system interpolymer resin. In addition, What is done with 10.5-100 mu as the whole in 5-50 not yet drawing ethylene - vinyl alcohol system interpolymer resin layer mu, 0.5-50 gas barrier property bed mu, 5-50 not yet drawing ethylene - vinyl alcohol system interpolymer resin layer mu is desirable for caliper of the seal. In this the third invention, adhesive joint materials are configured in the class of polyolefin resin and the class of gas barrier property and laminating seat with not yet drawing ethylene - vinyl alcohol system interpolymer resin layer, polyolefin resin bed of the adhesive joint materials contacts with concave department rear of inlet member of framework, not yet drawing ethylene - vinyl alcohol system interpolymer resin layer contacts with a countersunk head with a seal, and is done thermobonding. It is this the second gas barrier property layer and similar of an invention for the gas barrier property layer of the adhesive joint materials. In addition, Caliper of adhesive joint materials is 3-50 polyolefin resin layer mu gas barrier property layer 0.5-50 mu not yet drawing ethylene - vinyl alcohol system interpolymer resin As a whole, in 5-50 mu, it is desirable to be 8.5-100 mu. In addition, In an invention of this the third the first ..., it is opening of paper container Collar part of 10-40mm phi inlet member of framework 13-55mm phi adhesive joint materials 8-45mm phi seal It is desirable to be bulk of 13-55mm phi. Adhesive joint materials do thermobonding in concave department rear of inlet member of framework beforehand or, when injection molding does inlet member of framework, it is inserted or, after thermobonding did a seal in paper container, thermobonding may be done to a seal than surface layer side of paper container.

<embodiment> embodiment is explained when taken with the drawing. In this case paper container is configured in *geberutoppu* type so that is shown with example 1 figure 3, seem to be shown in angled wall portion 1 of roof form of the crown with figure 1, and opening 2 of circle is formed, inlet member of framework 3 is loaded there paper container the outside, is fixed. Inlet member of framework 3 moves to tray-like concave department 4 and a fringe of concave department 4, and system comprises collar department 5 of done no end cyclic. It sinks from concave department 4 is set to a slightly small diameter than a diameter of opening 2 of paper container and collar department 5 slightly to the lower part. Fortunetelling break article bezel 8 to make a point corresponding to division 6 form inlet 7 like figure 2 is referred to concave department 4 by making one part of minute 6 of the concave department lack. For this case, Fortunetelling break article bezel 8 is installed in no end cyclic in consonance with border of opening 2 of paper container, therefore, as for one part of lacking minute 6 of concave department 4, it is in circular plate. Collar department 5 of around of piece 9 it is projected piece 9 to grip, in addition, to grip note orifice piece 10 is projected in the one place that it was faced to fortunetelling break article bezel 8 of one part minute 6 to lack. Head is ring, and piece 9 to grip makes thin wall part 11 corresponding to fortunetelling break article bezel 8 produce crack by pulling this, concave department 4-1 division 6 surrounded with fortunetelling break article bezel 8 can be removed from inlet member of framework 3. As a result that note orifice single 10 removes one part 6, when it

begins to be flowed into in *nai** article from inlet 7 occurring in paper container, is used, but, function as a protector for external force not to act on piece 9 to grip abusively while it transports of paper container is carried out. Inlet member of framework 3, polyolefin resin

[sumikasen G7.1:]

With the use of Sumitomo Chemical Co.,Ltd., it is one-piece, and it is configured more, is molded so that the concave department 4 sinks more slightly than collar region 5, is fixed thermobonding to paper container in outer circumferential surface of paper container collar department 5 by what is done. In addition, And a diameter of opening 2 of paper container is 24mm phi inlet member of framework 3, collar department 4 and each diameter of fortunetelling break article bezel 8 are 33mm phi, 18mm phi each. The paper container bends laminating sheet for paper container in normal method, and is put together, as for the laminating seat, it is with the lamination which seems to be shown in with figure 1. In other words, The laminating sheet, ethylene - vinyl alcohol system interpolymer resin as inner surface layer 12a

[ethylene content 47% mol, ebaru G:]

Co., Ltd. Kuraray] layer (ten mu) / adhesive property polyolefin resin

[nobatteku AP220L:]

Mitsubishi Kasei Corp.] layer (ten mu) / ethylene - alpha / olefin copolymer resin

[urutozekkusu 2020L:]

After film production did three levels push-out laminating resin film of Mitsui Petrochemical Industries, Ltd.] layer (40 mu) in tubular film process, in *echiren* alpha / olefin copolymer resin layer face of the more laminating resin film, biaxial stretching poly ethylene terephthalate film of 12 caliper mu [Toray Industries, Inc.]

In laminating resin layer 12 and rear of acid-proof paper of basis weight 340g/m² provided by means of adhesively bonding *rumira*] in adhesive pro-isocyanate, ionomer resin of 15 caliper mu

[Mitsui Du Pont chemical Co., Ltd.:]

The thing that it is from external surface bed 13 which low-density polyethylene resin [16 mirason S P] bed of 20 caliper mu is pushed in the surface of paper composition backing material as center 14 and the acid-proof paper provided by means of adhesively bonding Al foil of nine caliper mu using adhesive layer comprising of 1652] levels *haimiran*, and did coating appears. In addition, The laminated wood laminated Al foil face of the paper composition backing material in isocyanate system adhesive as against biaxial stretching poly ethylene terephthalate film side in laminating resin layer 12. Seal 15 blockading opening 2 of paper container in inner surface layer 12a of the paper container can leave thermobonding. Interpolymer resin pro-ethylene - vinyl alcohol of 30 caliper mu seal 15 [ebaru G:]

Co., Ltd. It is the thing which not yet drawing sheet by Kuraray] is knocked down as circular plate of a diameter of 35mm phi, and was molded, and it is done thermobonding by adhesive joint materials of rear of concave department 4 of inner surface bed 12a of paper container and inlet member of framework 3. Adhesive joint materials 16 is bonded to concave department rear of inlet member of framework 3 by means of insert in molding of the inlet member of framework. Interpolymer resin pro-*echirenbiniurukoru* adhesive joint materials 16

[47 ethylene content mol %, ebaru G:]

Co., Ltd. Kuraray] layer (eight mu) 16a/ adhesive property polyolefin resin

[Nova TEC AP220L:]

Mitsubishi Kasei Corp.] layer (seven mu) / ethylene - alpha / olefin copolymer resin

[urutozekkusu 2020L:]

After film production did three levels push-out laminating resin film of Mitsui Petrochemical Industries, Ltd.] layer (15 mu) 16b in tubular film process, it was done with circular plate of a diameter of 27mm phi. In addition, It is done from roofing crown of not yet *fukan* condition so that *nai** thing is filled with paper container such as for example the above, it is done with *fukan* condition as shown in figure 3 after determination charge. On that occasion, Inlet member of framework 3, adhesive joint materials 16 and seal 15 is already adhesively bonded by paper container. It is done by making opening of paper

container hangs piece 9 to grip on a finger, and concave department 4-1 division 6 lack in consonance with pulling, fortunetelling break article bezel 8. On that occasion, Adhesive joint materials 16 and seal 15 generally comply with fortunetelling break article bezel 8, too, and it breaks, the division which broke is disposed of along with one part of minute 6 which bonded to concave department 4-1 division 6. When it could be put in example 1, the example 2 inlet member of framework, the adhesive joint materials and the paper container composed similarly, but, a seal, not yet drawing *echirenbiniurukoru* system interpolymers resin of ten caliper mu

[ebaru G:]

Co., Ltd. Not yet drawing *echirenbiniurukoru* system interpolymers resin of aluminum foil of Kuraray] layer and 15 caliper mu and ten caliper mu

[ebaru G:]

Co., Ltd. Kuraray] layer was adhesively bonded through a bonding-material, and it was composed as laminating seat. When it could be put in example 1, the example 3 inlet member of framework, the adhesive joint materials and the paper container composed similarly, but, a seal, not yet drawing *echirenbiniurukoru* system interpolymers resin of ten caliper mu

[ebaru E:]

Co., Ltd. Adherent polyolefin resin of Kuraray] layer and 15 caliper mu

[Nova TEC AP2202:]

Not yet drawing *echirenbiniurukoru* system interpolymers resin of Mitsubishi Kasei Corp.] layer and ten caliper mu

[ebaru E:]

Co., Ltd. Film production did three levels push-out laminating film with Kuraray] layer in T-die, and it was made. And, *echirenbiniurukoru* system interpolymers resin layer of the thermobonding side was used as the gas barrier property layer. When four embodiment inlet member of framework, paper container and a seal can be put in example 1, it is similar. However, Adhesive joint materials, polyolefin resin of 20 caliper mu

[16 mirason P:]

Not yet drawing *echirenbiniurukoru* system interpolymers resin of aluminum foil of Mitsui Petrochemical Industries, Ltd.] layer and 15 caliper mu and ten caliper mu

[ebaru G:]

Co., Ltd. Kuraray] layer is adhesively bonded through a bonding-material, it was composed as laminating sheet. Because action of a <invention, paper container having inlet member of framework concerning the effect> present invention seem to be the above, and inner surface bed of paper container is configured in *echirenbiniurukoru* system interpolymers resin layer, superior *ho* incense character is played as against *nai** article of orange sap by means of the smell retaining property ability that the resin layer comprises. In addition, Inlet member of framework is formed in polyolefin resin, but, because there is the collar department which should do thermobonding in the paper container in the outside of paper container, nasty smell occurring on the occasion of the thermobonding does not invade in paper container. Therefore, It is a thing showing extremely superior smell retaining property, and paper container comprising inlet member of framework concerning the present invention is compared with paper container comprising conventional inlet member of framework, it does not occur in strange taste and nasty smell in *nai** article of sap, and action superior in smell retaining property is played. Furthermore, As for the seal blockading opening of paper container, not yet drawing seat by *echirenbiniurukoru* system interpolymers resin or *nai** article and face to contact with are configured in the laminating seat which is *echirenbiniurukoru* system interpolymers resin. Hence: It is combined with the inner surface layer of paper container being configured in *echirenbiniurukoru* system interpolymers resin, and it depends, and strange taste and nasty smell can prevent a situation to occur in *nai** article surely.

[BRIEF DESCRIPTION OF DRAWINGS]

Figure shows embodiment of paper container having inlet member of framework concerning the present invention, cross section, figure 3 same as figure 1 that figure 1 can put I-I line cross section of figure 3, figure 2 after opening are perspective diagrams of paper container in hermetic seal condition. 3: Inlet member of framework, 4:00 Concave department, 5:00 Collar part, 7:00 Inlet, 12:00 Inner surface layer, 13:00 External surface layer, 14:00 Center, 15:00 Seal, 16:00 Adhesive joint materials.

